

**Size:** 2,211 acres  
**Mission:** Support C-141 airlift operations  
**HRS Score:** 39.65; placed on NPL in July 1987  
**IAG Status:** IAG signed in 1989  
**Contaminants:** Waste oils and fuel, spent solvents, paints, refrigerants, heavy metals, and VOCs  
**Media Affected:** Groundwater and soil  
**Funding to Date:** \$100.1 million  
**Estimated Cost to Completion (Completion Year):** \$10.5 million (FY2029)  
**Final Remedy in Place or Response Complete Date for BRAC Sites:** FY2000



## San Bernardino, California

### Restoration Background

In December 1988, the BRAC Commission recommended closure of Norton Air Force Base. The installation closed in March 1994. The most significant sources of contamination at this installation are a trichloroethene (TCE) groundwater plume and contaminated soil areas. Sites include underground storage tanks (USTs), landfills, fire training areas, spill areas, and waste disposal pits.

In FY82, Remedial Investigation and Feasibility Study (FS) activities began for 22 sites. The installation also began two Treatability Studies in conjunction with removal of polychlorinated biphenyl (PCB)-contaminated soil. Since FY93, a groundwater extraction and treatment system has been used to treat groundwater at the TCE plume area.

In FY94, the installation removed 45 USTs; 3 of the UST sites required further action. The installation also conducted confirmation studies at 43 areas of concern (AOCs) and at 3 of the original 22 sites. The studies indicated that 19 AOCs require further investigation.

In FY95, the Central Base Area Operable Unit (OU) groundwater extraction and treatment system was expanded and the base boundary groundwater extraction and treatment system became operational. The installation also formed a Restoration Advisory Board (RAB) and a BRAC cleanup team (BCT). The BCT redefined OUs as zones and initiated interim actions to shorten cleanup time.

During FY96, restoration activities were completed at 10 of the 22 sites. No-further-remedial-action-planned documents were completed for Sites 3, 4, 7, 11, 15, and 18. Closure reports were completed for Sites 6 and 9. An Action Memorandum concluded

that no further action is necessary at Site 22. Of the remaining 12 sites, 11 are undergoing Engineering Evaluations and Cost Analyses, Remedial Design (RD), or Remedial Action (RA). The Air Force identified 73 AOCs that required survey or investigation, all of which are completed. Installation of the Base Boundary groundwater extraction and treatment system was completed. Soil removal was completed at 23 UST sites and the removed soil was treated in bioremediation cells. Closure of the Defense Reutilization and Marketing Office occurred. Fieldwork for the Industrial Waste Treatment Plant closure was completed, and a closure report was submitted. Closure of the Air Combat Camera Services began, and the closure plan for the Industrial Waste Line project was reviewed by the state.

In FY97, a Record of Decision (ROD) was signed for Site 19. The RD for the landfill cap at Site 2 was completed. The installation also completed the Air Combat Camera Services closure report. The RA was completed at Sites 1, 8, 13, and 14 through excavation and disposal. The installation also completed RAs for Sites 16 and 21.

### FY98 Restoration Progress

The RA at Site 5 was completed. The closure report is being prepared to complete action at this site. RA was completed at Site 2 (the former base landfill) and RAO for gas collection began. The Action Memorandum was completed for Site 17.

Operation and maintenance (O&M) continued for two pump-and-treat systems. The TCE source area soil vapor extraction project concluded. The basewide groundwater monitoring program continued, including an off-base water supply contingency plan. The Ecological Risk Assessment was also completed.

### Plan of Action

- Complete RA completion report for Site 5
- Complete RA (landfill cap) for Installation Restoration Program Site 2 and begin O&M of landfill gas system
- Continue O&M of base boundary pump-and-treat system
- Continue monitoring of TCE plume
- Complete basewide FS and prepare proposed plan for basewide ROD

### SITES ACHIEVING RIP OR RC PER FISCAL YEAR

